RN 111-30-8 (GLUTARALDEHYDE)
7782-44-7 (OXYGEN)
CC General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Cytology and Cytochemistry-Human *02508
Biochemistry-Gases *10012
Biochemical Studies-Proteins, Peptides and Amino Acids 10064
Biochemical Studies-Porphyrins and Bile Pigments 10065
Biochemical Studies-Carbohydrates 10068
Biophysics-Bioengineering *10511
Metabolism-Proteins, Peptides and Amino Acids *13012
Metabolism-Porphyrins and Bile Pigments *13013
Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies *15004
BC Hominidae 86215

L3 ANSWER 2 OF 2 BIOSIS COPYRIGHT 1997 BIOSIS
AN 92:109616 BIOSIS
DN BR42:49616
TI A NEW TYPE OF ARTIFICIAL OXYGEN CARRIER SOLUBLE **HYPERPOLYMERIC HAEMOGLOBIN** WITH NEGLIGIBLE ONCOTIC PRESSURE PRODUCTION OF STABLE HYPERPOLYMERS FROM HUMAN BLOOD WITH GLUTARALDEHYDE AS CROSS-LINKER.
AU POETZSCHKE H; BARNIKOL W K R
CS INST. PHYSIOLOGIE PATHOPHYSIOLOGIE, JOHANNES GUTENBERG-UNIV. MAINZ, SAARSTR. 21, D-6500 MAINZ, FRG.
SO VIII WORLD CONGRESS OF THE INTERNATIONAL SOCIETY FOR ARTIFICIAL ORGANS AND THE IV INTERNATIONAL SYMPOSIUM ON BLOOD SUBSTITUTES, MONTREAL, QUEBEC, CANADA, AUGUST 19-23, 1991. BIOMATER ARTIF CELLS IMMOBILIZATION BIOTECHNOL 19 (2). 1991. 465. CODEN: BACBEU ISSN: 1055-7172
DT Conference
LA English
ST ABSTRACT HEMOGLOBIN REPLENISHING AGENT-DRUG HEMATOLOGIC-DRUG BLOOD SUBSTITUTE
RN 111-30-8 (GLUTARALDEHYDE)
7782-44-7 (OXYGEN)
CC General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Comparative Biochemistry, General 10010
Biochemistry-Gases *10012
Biochemical Studies-Proteins, Peptides and Amino Acids *10064
Biochemical Studies-Porphyrins and Bile Pigments *10065
Biophysics-Molecular Properties and Macromolecules *10506
Biophysics-Bioengineering *10511
Pathology, General and Miscellaneous-Therapy *12512
Metabolism-Energy and Respiratory Metabolism *13003
Blood, Blood-Forming Organs and Body Fluids-General; Methods *15001
Pharmacology-Blood and Hematopoietic Agents *22008
BC Hominidae 86215

L6 ANSWER 1 OF 2 CAPLUS COPYRIGHT 1997 ACS DUPLICATE 1
AN 1996:230096 CAPLUS
DN 124:352416
TI Crosslinked globular proteins as a new class of semisynthetic macromolecules: characterization of the structure in solution of **hyperpolymeric hemoglobin** and myoglobin by means of size-exclusion chromatography, viscometry, osmometry and light scattering
AU Poetzschke, Harald; Barnikol, Wolfgang K. R.; Kirste, Rudolf G.; Rosenbaum, Markus
CS Inst. Physiol. Pathophysiol., Johannes Gutenberg-Univ., Mainz, D-55099, Germany
SO Macromol. Chem. Phys. (1996), 197(4), 1419-37
CODEN: MCHPES; ISSN: 1022-1352
DT Journal
LA German
CC 63-3 (Pharmaceuticals)
AB An artificial O carrier for use in humans was developed by polymg. native Hb and myoglobin, using bifunctional, amino group-specific crosslinkers, to sol. hyperpolymers. These polymers, like other polymd. globular proteins, are members of a new class of macromols. which consist of macromol. base units. They all have, due to the mechanisms of the chem. reaction, broad distributions of mol. wts. Fractions of hyperpolymers of human Hb were obtained by employing preparative gel-permeation chromatog. (GPC). The calibration curve of anal. GPC for Hb hyperpolymers was detd. using mean mol. wts. of some fractions, as assessed by osmometric and light scattering measurements. In analogy to native globular proteins, the calibration curve for Hb polymers was a straight line. All fractions of Hb polymers were further characterized with the aid of calibrated anal. GPC. Mean nonuniformity was .apprx.0.6. The dependence of the logarithm of the intrinsic viscosity (.eta.) on the logarithm of the viscosity-av. mol. wt. of the fractions (the curve in the "structure-in-soln. diagram") also is a straight line, which is true for Hb and for myoglobin polymers as well. Its first deriv. is the exponent a of the Mark-Houwink function; for Hb and myoglobin polymers the values are 0.39 and 0.46, resp. Hb and myoglobin hyperpolymers both have a characteristic "structure-in-soln. diagram" and a characteristic calibration curve in GPC. The special structure-in-soln. of the polymer proteins is a novel mol. superstructure. The value of .eta. for native myoglobin was 3.5 mL/g.
ST Hb polymer structure; myoglobin hyperpolymer structure; crosslinking Hb myoglobin
IT Molecular structure
(crosslinked globular proteins: characterization of structure in soln. of hyperpolymeric Hb and myoglobin)
IT Crosslinking
(of Hb and myoglobin; crosslinked globular proteins: characterization of structure in soln. of hyperpolymeric Hb and myoglobin)
IT Hemoglobins
Myoglobins
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polymers; crosslinked globular proteins: characterization of structure in soln. of hyperpolymeric Hb and myoglobin)
IT 111-30-8, Glutaraldehyde
RL: RCT (Reactant)

(Hb and myoglobin crosslinking with; crosslinked globular proteins: characterization of structure in soln. of hyperpolymeric Hb and myoglobin)

IT 135705-08-7, 2,5-Bis(isothiocyanato)benzenesulfonic acid
RL: RCT (Reactant)
(Hb crosslinking with; crosslinked globular proteins: characterization of structure in soln. of hyperpolymeric Hb and myoglobin)

L6 ANSWER 2 OF 2 CAPLUS COPYRIGHT 1997 ACS DUPLICATE 2
AN 1993:260762 CAPLUS
DN 118:260762
TI A new type of artificial oxygen carrier: soluble **hyperpolymeric hemoglobin** with negligible oncotic pressure - production of thermally stable hyperpolymers from human blood with glutaraldehyde as cross-linker
AU Poetzschke, H.; Barnikol, W. K. R.
CS Inst. Physiol. Pathophysiol., Johannes Gutenberg-Univ. Mainz, Mainz, D-6500, Germany
SO Biomater., Artif. Cells, Immobilization Biotechnol. (1992), 20(2-4), 287-91
CODEN: BACBEU; ISSN: 1055-7172
DT Journal
LA English
CC 63-3 (Pharmaceuticals)
AB Hyperpolymers from human Hb were prepd. by redn. of Schiff bases, formed from glutaraldehyde and Hb, with NaCNBH3. These stabilized Hb polymers showed no changes in mol. wt. distribution, consequently the polymn. index remained the same during incubation up to 10 h.
ST Hb hyperpolymer blood substitute; glutaraldehyde Hb hyperpolymer
IT Blood substitutes and Plasma expanders
(Hb hyperpolymers, prepn. of stable, glutaraldehyde in)
IT Hemoglobins
RL: SPN (Synthetic preparation); PREP (Preparation)
(reaction products, with glutaraldehyde, polymers, crosslinked, prepn. of stable, for blood substitutes)
IT 111-30-8D, Glutaraldehyde, reaction products with Hb, polymers, reduced
RL: BIOL (Biological study)
(crosslinked, prepn. of stable, for blood substitutes)